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Disease Control in Dairy Herds—The New Outlook*

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At recent meetings we have given consideration to the Survey Committee's scheme for the control of diseases of dairy cattle and at our last meeting we adopted the Committee's final proposals for the functioning of the scheme. The primary object of the scheme, you will recall, is the maintenance and even increase of our present milk supply. In thus adopting the scheme I am certain that it is not necessarily to be implied that we agree that it is everything it should be, for did we not at an early date in the discussions set out certain criticisms to which all of us probably still adhere. Our adoption of the scheme, however, seems to indicate that our idea of veterinary practice is undergoing a change or that, whether we realise it or not, we are placing a new emphasis on an existing but at present, less obvious aspect of the subject; a new outlook which I am convinced will have far-reaching effects upon the livestock of this country.

Until quite recently the practitioner has been primarily and often solely concerned with "individual" cases of illness and surgical or medicinal treatment has been his forte. During this period the one-time theory of disease control and prevention has been entering into practical application and not last among the converts to this change is the veterinary practitioner. Now what does this change imply? Firstly, I think it means a change of attitude to the basic unit with which henceforth we shall have need to contend. Whereas previously the all-important unit was the individual, henceforth we must often consider the herd or flock as of greater importance. Again, the practitioner rather than have his attention drawn to cases of illness, will himself determine by routine examinations what animals are or are likely to be a menace to herd welfare, probably quite unknown to the farmer. Such work by the practitioner will inevitably call forth an even more highly developed art of diagnosis than is already his highest accomplishment. It seems inevitable that this will call for additional assistance which is too often regarded as something quite unconnected with practice. Diagnosis by means of laboratory procedure can no longer with safety be disregarded as an essential supplement to the clinician's art. The new era will, therefore, inevitably see the bridging of the gulf that quite wrongly has tended to exist between the practitioner and the laboratory worker for both of us shall be indispensable cogs in the machinery which is gradually being assembled, beings dependent one upon the other. I am, therefore, inclined to wonder whether our usefulness to you ends with the issuing of a formal report upon a routine examination or whether this new era holds out certain difficulties where veterinary investigation officers might be of further assistance to you, and trust that if this is the case you will tell us so.

Such difficulties have been envisaged by the N.V.M.A., particularly so in the matter of sterility, and they have, in conjunction with the Agricultural Research Council, arranged to provide specially qualified advisors to assist practitioners in matters of diagnosis, one of whom, we understand, will be posted at Bangor in the near future. In a general sense the "National", through its Survey Committee, have countered foreseen difficulties by issuing recommendations as to the method of controlling these various diseases. I thought that this afternoon we might look into these as they affect us individually and conditions in North Wales generally. At the outset, however, we should be clear on one point, namely that the Committee, I feel sure, does not intend that these recommendations be binding upon every practitioner. But at the same time we must bear in mind that they are offered to us as the carefully considered opinion of experts in the matter of disease control. We all realise, not least the Survey Committee, that such a scheme of control must be elastic, since each herd is an individual problem having its own particular method of elucidation. One of the chief problems in a general sense, will be the farmer and his men. It is imperative that they be made disease control conscious, *i.e.*, made to understand clearly what a practitioner wishes done and why. We seek his intelligent co-operation as an essential part in the successful working of the scheme. It will be well also for each practitioner to work out a careful routine for clinical examination in order to be fully efficient in a minimum of time and to bear in mind that in order to obtain the full benefit of a laboratory examination, material (milk, blood, faeces, etc.) should be carefully taken and despatched. (We will deal more closely with this later in the laboratory.)

* Address presented to the Annual Meeting of the North Wales Division, N.V.M.A., at Bangor, November 7th, 1941.

SOME MAJOR DISEASES OF DAIRY CATTLE

Let us now deal more specifically with the individual diseases, taking contagious abortion or, as I prefer to regard it, brucellosis, first. I personally maintain that this disease is by far the most important with which we have to contend, being in no small measure directly or indirectly responsible for many cases of sterility and mastitis. Moreover, it is a disease which can be controlled if we put our backs into it. It is recommended by the Committee that control in herds where the disease is well established is best achieved by live vaccination, and they state that, subject to satisfactory evidence of the effectiveness of calf vaccination, they favour this additional method of control. I intend discussing the disease in relation to two terms quoted by the Committee, the terms "well-established" and "control by live vaccination."

What is meant by "well-established"? How is a person to decide whether the disease is well established? It seems evident that we must firstly establish as fact that *Br. abortus* has caused infection of certain animals in a herd which have consequently aborted. It is true that eight out of ten cases of premature birth of calves in this country are caused by such infection—particularly so in dairying districts—but one in every five is not. Again, if we assume on the history, that two out of a herd of ten have aborted as a result of infection with *Br. abortus* how many of the other eight are similarly infected? Is it not obvious that we must on an initial visit to the herd establish on reliable grounds (i) the presence or absence of *Br. abortus* infection, (ii) the extent or incidence of that infection in the herd and, having done so, adopt a certain percentage incidence, depending on the circumstances met with in the particular herd as indicative of the state of being "well established" and so suitable for control by vaccination. Now, how do we accomplish this? There is, of course, only one reliable means by which this can be done and that is by means of the agglutination test. What, then, does the agglutination test tell us? Simply, whether or not an animal is, or recently has been, infected or in contact with *Br. abortus*—no more, no less. In so doing, however, it enables us to form an opinion of the present state of affairs in the herd. Can we now decide the degree or incidence of infection we might regard as indicating that the disease is "well established"? I think we can, and propose that we adopt an arbitrary incidence of 20 per cent. or more. That is, if the herd, including in-calf heifers, contains this number of positive reactors, the disease should be considered as well established.

A word now on control by live vaccination. It is clear that dead vaccine has been disregarded as having any value and that the Committee regard the use of a standardised live vaccine as essential. You may recall that when reporting the result of our examination of commercial live *Br. abortus* vaccines we suggested that the difference of opinion now held as to the efficiency and even safety of live vaccination might be explained by the use in vaccines of

multiple strains of varying virulence. That is, the danger on the one hand of using a vaccine containing, among a number of strains, one of high virulence or, on the other hand, one containing one or more strains of very low virulence with little immunising power. We have not as yet any information as to the detailed nature of the proposed standard vaccine which is to be used and we await its issue with great interest.

Considerable success has followed the experimental use of live vaccine in calves in America, using a particular strain of *Br. abortus* widely known as Strain 19. It has been shown that 96 per cent. of animals inoculated as calves four to eight months old successfully resisted infection in herds heavily infected with brucellosis and where this was the only method of control used. Less than half of the remaining 4 per cent. aborted as a result of infection with *Br. abortus*. This result and that of other experiments designed to prove the innocuousness of this particular strain of *Br. abortus* makes it seem certain that a change in the policy of the Bureau of Animal Industry in its control of brucellosis is imminent and that calf vaccination will most certainly form an integral part of future control measures. Unfortunately, there are no published results of work of a similar nature in this country which would enable the Committee to advocate the adoption of a policy of calf vaccination although I fail to appreciate fully why Strain 19 should not provide us with the same reliable vaccine here as it does in the States. However, two years ago we decided, on the knowledge that heifer calves up to eight or nine months of age are naturally highly resistant to infection with *Br. abortus*, that the principle of calf vaccination should be investigated. Ideally, such vaccination should render the animal immune to infection, so that apart from giving birth to a normal calf there is no trace of infection present in afterbirth, discharge, or colostrum and, if possible, no trace of blood reaction. Thus, ideally, it is hoped to build up a herd of disease-free, resistant cattle. This is vastly different, on the one hand, from a disease-free herd, with the need for constant safeguards against the introduction of infection and, on the other, from an immune herd with animals still capable of excreting viable organisms at the time of calving and/or in their milk. At present our scheme consists of the vaccination of calves four to eight months of age, using a standardised vaccine of known virulence. We are not, however, in a position to give you any results of this work as yet, as none of the vaccinated animals has as yet calved. It is of interest, however, to note that all blood reaction due to vaccination has vanished in about nine months after inoculation. I have every reason to believe that good will follow such a policy and I am most anxious that it be introduced into any scheme of control of brucellosis that, individually, you decide to adopt under your own special circumstances.

The control of brucellosis, however, does not end with the attention paid to those herds where the disease is "well established"; we have to consider the lightly infected herds. Normally, a person owning a herd of this type would be well advised to subject his herd to a second general test, three weeks after the first, and to remove for subsequent disposal any reactors, the herd to be maintained free by repeated blood tests. How far can this be made a part of our present attempt at control? I might suggest for your consideration that such herds be retested by us at the laboratory, as many are being done already, as part of the general scheme. In fact we might make arrangements with those who wish it, to conduct even the initial tests. In general, repeated tests of herds will probably be few in comparison with those undergoing vaccination. It is our hope of course that finally such herds will adopt a policy of calf vaccination and so build up our ideal disease-free immune herd.

I have already mentioned the importance I attach to brucellosis in relation to mastitis. This is particularly so when it is present in its chronic and less spectacular but nevertheless more costly form, often rendering the exceedingly delicate mammary tissue less resistant to bacterial invasion. This and other outside influences not connected with bacteria need special emphasis laid upon them by a practitioner when advising his client in the control of mastitis. Please do not think that in saying this I am overlooking the importance of specific bacteria in mastitis. Control of mastitis, as recommended, is based primarily on a clinical examination of the herd with the examination of occasional milk samples by the laboratory. I am prompted to ask at this point whether (1) it is possible on clinical grounds to differentiate bacterial types of chronic mastitis, (2) it is necessary to decide this point. I am inclined to answer the first in the negative and the second in the affirmative. In acute cases the recommendations are clear-cut—speedy treatment is essential even at the risk of failure, but a laboratory examination of secretion may serve to explain failure and to indicate an alternative line of treatment such as toxoid in staphylococcal mastitis and udder injection with the bismuth, boric acid, liquid paraffin preparation as a preventive of *C. pyogenes* infection. I must draw your attention to the sub-clinical or potential mastitis cases due to *Streptococcus agalactiae* and *S. aureus*, both of which, particularly the former, are very contagious. Such cases are a danger both to the animal itself, once the resistance of the mammary tissue is broken down, and to other animals since the organism excreted in the milk can be so readily transmitted to healthy udders. I view these as equally dangerous to the health of the herd as the clinical cases and thus equally requiring detection. Has the practitioner the time to do this, however? The Committee, in ignoring these cases, in effect, in its recommendation, says that practitioners have not the time and must depend upon the detection of these cases when they have become clinically manifest and have unfortunately done a great deal of harm. I suggest, however, that their detection be attempted and, further, that farmers be instructed to take samples from all the non-clinical cases and to send them to the laboratory for examination. Control of mastitis, then, envisages routine clinical examination using a strip cup, the immediate treatment along approved lines of all acute cases and the subacute treatment of all chronic and sub-clinical cases when drying off, with their isolation at milking in the meantime, and lastly the education of the farmer to his all-important part in the matter of control.

The question of sterility has already been ably dealt with at previous meetings by speakers far more capable than I am of dealing adequately with the subject. I will mention one or two points, however. The first deals with Trichomoniasis. We first met with this condition in 1937 and have since investigated three very serious outbreaks involving in each case a minimum of 20 farms. Control of this disease under such circumstances can only be effective by whole-hearted co-operation between the farmers concerned.

In each case a policy of disposal of all infected males and females (other than those of extraordinary value) for slaughter was advocated and adopted. Treatment under such circumstances is difficult, costly and not satisfactory. It is possible that the Committee's recommendations have failed to take into account the occurrence of this disease on as large a scale as I have indicated. I am pleased to note, however, that they are considering approaching the Ministry with a view to having the disease scheduled. I attempted this three years ago but to no avail, but with the accumulating evidence of its general seriousness the application may be viewed differently. The diagnosis of Trichomoniasis depends largely on the history of the outbreak, the symptoms and the demonstration of the protozoan parasite, *T. foetus*, in vaginal or preputial discharges. I would refer you all to the excellent article by Stableforth, Scorgie and Gould (*Veterinary Record*, Feb. 20th, 1937). It is important that this condition should not be confused with one showing rather similar symptoms and due to infection with *C. pyogenes*. The association of infections and contagious diseases with sterility must, therefore, be emphasised.

In relation to Johne's disease, I venture to mention to you the real value of a microscopical examination of faeces samples, stained as you would a milk smear to detect *M. tuberculosis*, as an aid to diagnosis. It is really amazing what information a comprehensive examination of such material gives one. Several cases of Johne's disease diagnosed in the field resolved themselves into cases of parasitic gastritis. In matters of control I would emphasise the need for isolating highly susceptible calves up to eight or nine months of age from adult carrier animals. We must not lose sight of the ultimate possibility of a reliable johnin being available and then, as with tuberculosis, the end of Johne's disease should be in sight.

I have briefly mentioned certain points arising in the control of the diseases of dairy cattle, regarding this as part of a new outlook by the practitioner in respect of his daily calling, indicating the need for the education of the farmer to this new outlook and for taking him into our confidence. I have also expressed the hope that we might be of even more assistance to you than is envisaged by the Committee in this additional but all-important work. Let us then step out boldly into this new era of veterinary

practice and let it be our united and earnest endeavour to see that together in North Wales we handle this scheme in such a way as to leave no doubt in the mind of anyone that we can accomplish what it is intended we should accomplish, namely, the ensurance for Lord Woolton of sufficient liquid milk, thus relieving in a small and indirect way the terrible risks that are being undertaken on our behalf each day by our merchant seamen. It is our country's pledge to civilisation that we win this war for democracy and this will be our additional share in the great and awful task.

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Discussion

The PRESIDENT (Mr. H. Llewelyn Jones) said he wished to express his gratitude to Mr. Rowlands for his valuable address. He had obviously given much time and thought to the preparation of such a concise statement and there was no doubt that Mr. Rowlands was in earnest in endeavouring to find a solution to the problems with which they were confronted. As practitioners it behoved them to be equally interested in the work before them, and to co-operate closely with the Investigation Officers. He paid a tribute to the work of Mr. Rowlands and Mr. Harbour in North Wales and said he felt sure that they would afford the practitioners every assistance in carrying out the proposed scheme. The Survey Committee had placed a great responsibility on their shoulders as practitioners. He was sometimes afraid of the amount of work which would be required of them, and he was very sorry for the farmer who, in addition to his routine duties, would be obliged to spend a considerable amount of time in keeping records : and records, he added, required to be strictly correct if they were to be of any value. Speaking personally, he would prefer to carry out the scheme efficiently in a few herds rather than embark upon a large amount of work which he knew could not be performed satisfactorily.

Mr. SALUSBURY thanked Mr. Rowlands for what he considered was a masterly address by an enthusiast with a vision of the future. He agreed with what had been said regarding the collaboration of laboratories and practitioners, but in that connection he wished to make an appeal for less stereotyped reports from the laboratories. The practitioner required guidance and it would be valuable if the laboratory would deal with possibilities and probabilities and add some helpful suggestions rather than confine itself to a mere statement of facts. Mr. Rowlands had laid stress on the desirability of securing the co-operation of the farmer in carrying out the scheme. He, Mr. Salusbury, did not wish to be regarded as a pessimist, but speaking from his own experience of things as he found them in North Wales, he thought that there must be a considerable advance in the matter of the general education of the farmer before the desired co-operation could bear fruit. There were two other points on which he would like to comment briefly. The speaker had mentioned the necessity for the isolation of reactors. But how could this be carried out efficiently in many farms in North Wales ? The second point had reference to Johne's disease. He thought the simple method of diagnosis from rectal scrapings had been overlooked in the address.

Professor CRAIG said that he had enjoyed listening to Mr. Rowlands's address and was particularly interested in his conception of the future of veterinary practice. There was no doubt in his mind that veterinary surgeons would in future be concerned more and more with preventive medicine. Progress in that direction would probably be slow and would depend largely on the benefits conferred upon individual herds by veterinary surgeons who were employed for the purpose. A great deal of publicity had been given to the Survey Committee's report and the scheme which had been evolved from it. As the scheme was a voluntary and a limited one it would probably be adopted by only a small number of farmers at first and its future would be affected by the results of these experiences.

The publicity given to the scheme was, however, of great value to farmers and veterinary surgeons alike, in making them conversant with some of the animal diseases of economic importance against which great improvements could be effected by modern methods of control and treatment. The object of the scheme at this time, said Professor Craig, was to increase the milk supply ; it did not aim at the eradication of any of the diseases included in the scheme—and indeed eradication did not seem for the most part practicable at the present time in view of the fact that it entailed the removal from the herd of a number of apparently healthy cows, the milk supply of which was satisfactory.

It might be that, by the scheme, the way would be paved for eradication measures later on and that other diseases of farm animals would be later included when the scheme had proved its worth.

In his experience the success of eradication of contagious abortion was largely dependent upon the removal of reacting cattle at the earliest possible moment. Isolation on the farm could not be depended upon to prevent the spread of infection to the unaffected section of the herd.

It would be ideal if one could produce an immune disease-free herd. But the experience was that an abortion-free herd had a high degree of susceptibility to infection with *Brucella abortus*.

Calfhood vaccination was promising in that it gave a certain amount of immunity during the less susceptible portion of an animal's life, but it did not solve the problem of the abortion storm. Even when cattle had been immunised, the immunity given was only relative and did not cause resistance to mass infection. Hence it was necessary, even with vaccination, to provide calving boxes for aborting and calving animals until the discharges had ceased, and to ensure proper disinfection.

A standardised vaccine was within sight and it was probable that it would be provided by an organism of low virulence which would give a moderate degree of immunity.

With regard to the control of mastitis due to *Streptococcus agalactiae*, Professor Craig spoke of the work which was being carried out by Mr. Ratter, of his Department, in Cheshire and Lancashire, and said that there, periodic whole herd sampling of milk was carried on. The greatest success was obtained in self-contained herds under the close supervision of the owner, but it did not amount to complete eradication. At the same time few of the animals that came to be affected showed any clinical symptoms.

In the scheme eradication was not envisaged and whole herd sampling was not thought of. It was only intended that the infection in the herd should be shown to be *Streptococcus agalactiae* and much might be gained by the use of the strip-cup and the milking of the young cows first, then the older cows and affected cows last and if possible by hand.

As regards the bacteriological examination, it was absolutely essential that the milk samples should be taken, not by the farmer, but by the veterinary surgeon himself, and in such a way that the sample contained no extraneous matter and was taken direct into a sterilised bottle with a sterile stopper. It was because of breaches in these precautions or because mixed milk from pail or churn was forwarded for examination for tubercle bacilli that the laboratory could only report that acid-fast bacteria indistinguishable from tubercle bacilli had been found. Unless further information was available, serious error might result. That accounted for the necessity for closer collaboration between the practitioner and laboratory worker.

It had frequently been suggested that *Trichomonas* infection of cattle should be scheduled under the Diseases of Animals Act but no one had indicated what should be done after that had been effected. State control would only be valuable if there was any likelihood of improvement in the position, and it was apparent that our knowledge of the disease was not very extensive. Professor Craig mentioned an outbreak which had been in existence for over a year in which the owner disposed of the cows not in calf and the heifers which had been served, together with the bulls. He kept the cows that were in calf and bought in young cows and a bull to fill the vacancies. After about a year the disease reappeared, suggesting that the cows in calf which had been kept were also infected.

Regarding Johne's disease, the microscopical examination of the faeces was extremely useful for diagnostic purposes but rectal scrapings were of little value. The disease usually commenced in the neighbourhood of the ileo-caecal valve and extended thence forwards into the small intestines and backwards into the caecum and colon.

A standard johnin had yet to be obtained.

As regards the control of the disease, apart from the disposal of clinically affected animals it was important that great care be taken in the disposal of the manure, which should not be applied to pasture which was being grazed, and in the provision of an uncontaminated water supply.

In his view the closest co-operation of laboratory worker and practitioner was absolutely essential in the proper utilisation of veterinary science for the benefit of animal husbandry.

The Aims and Outlook of the Woman Veterinary Surgeon*

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It is my privilege to address you to-day, at this, our official inaugural meeting, but I am not sure that the task is an enviable one.

As the Society has no past I cannot review its previous work as is usual on these occasions, but must confine myself to our hopes and intentions for the future. If, as is inevitable, these remarks are largely a reiteration of my summary on October 18th, I hope you will bear with me, for it is upon these points that our policy for the initial year of this Society depends.

At its recent meeting the Provisional Committee came to the conclusion that one of our early meetings should be earmarked for a discussion on veterinary education and it is of this I shall speak first.

As you are aware, it has recently been decided that the work of the Committee considering the revision of the veterinary curriculum should be resumed at an early date, and I feel that a full and free discussion by women graduates and students may well formulate some valuable opinion on this vital topic, and we could then make an effort to have these views brought to the notice of the appropriate committee, possibly in the form of a memorandum.

Quite obviously the aspects of veterinary education dealing with animals of economic value are receiving the fullest attention but even here the views of those women in large-animal and mixed practice should be helpful. I must confess, however, that even allowing for the vital nature of this part of veterinary science at the present time I am not a little concerned that the interests of small-animal practice should not be too much overlooked, and I do not think I am guilty of undue pessimism if I say that I believe that there is a danger that this will, in fact, occur. After all, we must take the long view, and I am sure it is the earnest wish of all of us that when victory is attained the prosperity of small-animal practice shall return. I have heard the view expressed that pet practice is the least scientific aspect of veterinary science—with this view I cannot agree; the very fact that one is dealing with a sentimental rather than an intrinsic value of the patient makes expensive treatment far more feasible than in the case where the value of the beast must be balanced against the cost of suggested treatment. This especially applies to surgery, which has been brought, of recent years, to a high degree of skill, and to me it would appear deplorable that, having brought the pet-owning public to believe that we are now, at least, well trained to deal with their patients, this branch of our work should backslide into the very minor position it occupied not so many years ago. Should this be allowed to occur I am certain this opportunity would not be lost by those welfare societies whose clinics are manned by unqualified personnel. I do not suggest that this is likely to affect to any appreciable extent those of us already qualified, but again I would urge the importance of the long view in approaching this problem. Of one thing I am convinced, that someone has got to draw attention to this aspect of veterinary education, and that soon, or, as has happened so often in the past, when it is too late, we shall realise that we have "missed the boat."

We shall, I hope, be afforded an early opportunity of debating this whole matter, and bearing this in mind I hope you will all be prepared to take an active part in so vital a discussion. One point I would commend for your special consideration; that is, the possibility of splitting the college course during the later years, or alternatively of obtaining a specialised course, post-graduate to the usual diploma, for those wishing to deal with small animal practice. The former suggestion has the advantage that it would avoid unwieldy general classes, and would obviate any feeling by those taking the general diploma that their tuition was encumbered by a number of potential "dog doctors," uninterested in the aspects of veterinary science so important to the agricultural future of this country.

From the veterinary curriculum itself one naturally passes to the veterinary student. As you will have noted, membership of this Society is open to all women veterinary students at a nominal subscription. We sincerely hope they will not be slow to avail themselves of this offer. We shall at all times be concerned to assist the woman student. Having been through the mill ourselves we know the difficulties which beset their path, particularly in regard to seeing the necessary general practice. We hope we may be able to assist women to see the necessary practice—by a frank discussion, and we hope, subsequent removal of difficulties which have in the past arisen from both sides concerned in this matter.

By hearing the experiences of our graduate members students may obtain helpful ideas on the shaping of their post-graduate career, and on the various branches of the profession which are open to women.

Discussion on these matters should enable us to offer Dr. Bullock some considered and co-ordinated views on his recent memorandum, which seems to have been patchy both in distribution and response, thus possibly conveying to the Registrar an erroneous impression.

I believe, too, that we might with advantage attempt to develop a broader outlook. Individual success is, naturally, a matter of prime importance but to my way of thinking when one is admitted into a profession—I will not say "noble" profession since I believe we have yet to earn the right to that adjective!—one should assume a degree of responsibility for the general welfare of that profession, not merely for one's own advancement. If we can encourage this more disinterested outlook on the profession we shall have achieved something worth while, and here again the student comes in. The years of study are necessarily devoted to the one task of "getting through," hence the new graduate suddenly becomes aware of quite another aspect of the profession, broadly called veterinary politics, and is flung into a maelstrom of conflicting opinions and personalities with no previous introduction, the result of which is frequently to make the individual retire with the thought "This doesn't concern me," and no further interest is shown. If, as we hope, student members attend our meetings, they will get some kind of introduction to this side of their profession, will have an opportunity to form their own opinions, and may become imbued with the idea that the welfare of the profession as a whole is a matter which concerns each and every one who enters it.

It has been suggested that the comparatively junior status of the women of the profession may tend to put the quality of our discussions, especially on scientific matters, on a lower level than those of the general divisions. I suggest that this should be regarded as a challenge to show what we can do. For myself, I cannot claim to have noticed at divisional meetings that the quality and liveliness of the discussions bore any direct relation to the seniority of those present! We can but do our best.

The question of the position of women veterinarians under the National Registration for Employment Order 1941, which I mentioned at our previous meeting, has, I think, been cleared up by my own experience in the interim and you have also heard the ruling we have obtained from the Ministry of Labour.

Since our October meeting I have registered (to save needless speculation I will add that it was with the 29's) and to my surprise received notice for an interview ten days later. I lost no time in attempting to get this straightened out, and as a result of these efforts I concluded that the trouble arises in the lack of comprehension on the part of the women taking particulars at the time of registering. Ridiculous as it may seem, the best plan would appear to be to indulge in extreme redundance when registering, stating that one is a veterinary surgeon, that one is fully qualified, that one has passed all the examinations, that one holds the diploma M.R.C.V.S., and that in addition it is a reserved occupation. This will probably avoid misunderstanding which may lead to notice for an interview being sent, since no veterinarian should even be interviewed, let alone directed to change employment. Doubtless the majority of women veterinarians have already registered, but this may serve to set at rest any doubts remaining in the minds of several of our colleagues who have been somewhat perturbed by these matters in recent months.

I think the last matter that comes within our immediate scope is that of equality of opportunity for men and women of the profession. In this respect I believe our best policy to be one of holding a watching brief. I do not think we should make use of our "nuisance value," nor do I think we should make a parade of our hopes and wishes in this direction. Rather should we dea

* Presidential Address to the official inaugural meeting of the Society of Women Veterinary Surgeons (Division, N.V.M.A.), held at 36, Gordon Square, W.C.1, on December 6th, 1941.

with any cases which seem to us to warrant our intervention as they arise. It will be up to our members to bring to the notice of the Society any case where there seems to have been discrimination against a member on grounds of sex, or if any post which seems to be equally suitable for members of either sex is closed to women applicants. This latter will, naturally, refer especially to Ministry or Laboratory appointments since obviously it is the right of any individual practitioner to choose assistants in whatever manner is thought fit. Neither shall we set ourselves up as an employment bureau, but at the same time it should be a simple enough matter for us to assist both those seeking employment and those requiring assistants or *locums*.

If those members who are at any time unemployed care to notify the Secretary of the fact, also giving a brief indication of the nature of the work required, salary expected, etc., it will be possible to keep a fairly up-to-date register of those available at a given time—the responsibility for keeping the register accurate will naturally rest with members themselves. Likewise, any veterinary surgeon requiring a woman graduate as manager, assistant, or *locum*, could apply to the secretary who would thus be able to supply names and addresses of any suitable person free at the time. I believe it is not too much to hope that at some future time we shall be able similarly to compile a register of those general practitioners willing to take women for extra-mural tuition.

I do not wish to occupy more of your time, and I hope you will not hesitate to raise any matter of professional interest, whether general or specially applying to women, at any time—should the matter be one likely to give rise to much discussion the Secretary should be notified as soon as possible in order to arrange for its inclusion on an early agenda.

I would conclude by saying that we, the officers and members of Council of this new Society, do realise that our election by you was of necessity made very much in the dark, since our opportunities of knowing one another have so far been very limited, but (and I am sure I speak for my colleagues as well) I can but assure you that it will be our endeavour to do our utmost to guide the destinies of your Society on its maiden voyage in the manner which seems to us to be in the best interests of the profession in general and of its women members in particular.

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Discussion.

Dr. W. A. Wooldridge, President of the N.V.M.A., opening the discussion at the request of the President of the Society of Women Veterinary Surgeons, said he had seldom heard so well-balanced and concise an address. He was particularly glad to notice that the President had referred to the fundamental problem of the profession, namely, education. He thought that if all our difficulties of development were analysed they would be traced back to the education received, particularly at our own colleges. The attention drawn by the President to the possible neglect of small-animal practice he thought was timely, not because those people who had been emphasising the need for improvement in our agricultural work had really meant to neglect small animals, but they had had to over-emphasise the large-animal side because the " powers that be " have not fully appreciated what the veterinary profession can do in this sphere. Dr. Wooldridge agreed with the President that their knowledge in respect of small animals was equally as scientific as, if not actually more so than, their knowledge of large animals, and for that reason alone he was convinced that the R.C.V.S., in their present review of the membership curriculum, would not neglect that aspect of the work. There was, of course, the further hint given by the President of the possible usurpation of their activities in connection with small animals by the animal welfare societies, and again this must be taken seriously, although he personally had no fear of these societies whatever. He knew the animal welfare societies and their personnel intimately and the way in which some members of the profession regarded them was grossly exaggerated. If a veterinary surgeon did his job properly no animal welfare society could usurp his position ; if, on the other hand, he either neglected to do his job properly, or even behaved discourteously to members of the public, as had been known to occur, then it was only natural for the disappointed owner to go to the animal welfare societies and, if satisfied, " advertise " the fact that better treatment was there received. The unwarranted development of clinical work by the societies, however, even if all combined, could readily be stopped and such activities restricted to the legitimate treatment of animals of the poor, if the profession were properly organised to do its work efficiently.

He was very glad to hear that provision had been made at once for students to become members of their Society. Students were going through their impressionable years while at college and sometimes they formed unfortunate impressions which had to be dispelled later on. Students should be given the opportunity to appreciate that the responsibility of the profession is partly theirs as soon as they become graduates. If new graduates assumed such responsibility many of the profession's difficulties would disappear. Those members of the profession who had been active within the profession, pursuing what they thought to be the lines of progress, knew only too well the killing apathy that exists in a fair number of their colleagues. He asked them to endeavour to maintain the high standard they had set both for themselves and the students.

The President had referred to the view that some people appeared to hold, that the part women could take in discussions might not be of the highest quality—he would remind them, however, of one fact : he thought it was true to say that it was very rare for a woman to speak at a meeting without considering very carefully beforehand the matter under discussion, and consequently anything she did say was both intelligent and apt, whereas some men would stand and talk nonsense for hours. One thing the President had omitted to mention, although he knew she had the matter at heart, was that the Society would later discuss certain scientific problems concerning the profession, and if these discussions were published in *The Veterinary Record* he felt that the profession as a whole would gain very considerably.

In the general discussion which followed Miss Iszard asked Dr. Wooldridge what exactly were the proposals put forward concerning the new curriculum.

Dr. Wooldridge replied that the course was already overburdened, and yet place must be found for new matter, a fact which must mean the dropping of certain parts of the present course. He briefly referred to certain proposals which were at present under consideration by Council, R.C.V.S.

Miss Brancker disagreed with a suggestion, put forward by Miss Iszard, that the course might, towards the end, be divided to provide for the needs of those who wished to take up large- and small-animal practice respectively, for the reason that if a member did only small-animal work he or she would be debarred altogether from assisting in large-animal practice.

Miss Freak said she thought it was possible to get all the experience they wanted with regard to large-animal practice in the necessary extra-mural teaching.

Mr. Hancock expressed the opinion that it would be better to regard the M.R.C.V.S. as a minimum qualification and afterwards differentiate between large and small animals, etc., since a great deal of the work given in the curriculum was necessary for both.

Some discussion on the question of a courtesy title for veterinary surgeons ensued. Many considered that some education of the public regarding the term " veterinary surgeon " was necessary since so few appreciated its significance. It was also suggested that a member should be entitled to use some descriptive title, such as " canine specialist," to indicate to the public the type of work in which he or she was most experienced.

Miss Howell said that women veterinary surgeons were considered by the public only to know about small animals, and the latter needed to be told that they were equally well informed regarding large animals.

The main drawback to the veterinary curriculum was considered to be the fact that it was not possible to have sufficient practical experience with large animals at the colleges.

Mrs. Kelly informed the meeting of an attempt by the University of Liverpool to alter this state of affairs.

It was generally agreed that no difficulty would present itself in the matter of women veterinary surgeons visiting farms, provided they adooted the right attitude and made a good first impression. Farmers, as a general rule, were extremely kind and helpful to women veterinary surgeons.

The Ministry of Food reminds keepers of poultry that the feeding of fowls with rice fit for human consumption is a direct contravention of the Rice (Control) Order, 1941, which prohibits, except under licence granted by the Minister, the use of rice for any other purpose than for human food.

THE VETERINARY RECORD
January 31st, 1942.

THE SOCIETY OF WOMEN VETERINARY SURGEONS

IT is some time since we have had the pleasure of welcoming into the National fold a new Division of the N.V.M.A. The present welcome is one of particular interest and warmth, and also unique in that it gives publicity to the formation of a society dedicated to the interests of our women members of the Royal College of Veterinary Surgeons. As far back as the year 1934 in this journal (*Vet. Rec.* **14., N.S., 361–363**) we reviewed the whole history of women in relation to the veterinary profession in this country, and we are gratified to see this further historical development of the cause.

The Address of the first president of the Society of Women Veterinary Surgeons—an admirable title we think—leaves no doubt in the reader's mind that we have women veterinary surgeons possessed of the breadth of vision requisite to enable them to play their full part in the sphere of veterinary science, practice and "politics." The president's Address was modest, but at the same time positive and far-seeing in its outlook. It received, as it deserved, from the President of the N.V.M.A., high praise. If this, coupled with the way in which the business of the first meeting was conducted, is any criterion for the future, then we have added to our strength very considerably by admitting this society to the parent body.

The new society should have much that is useful to contribute on educational matters, which are coming again to the fore as the mainspring of the advance of our profession in the political sense. For our part there need be no doubt that we shall listen attentively to whatever opinions and resolutions may be proffered from this new and most promising source.

BREED MORE HORSES

"A strong appeal to breed more horses has been made in Australia, for reasons which Clydesdale owners in this country might well weigh-up at the present time," observes the *Farming News*, which continues: "These reasons are very pointedly put forward by Dr. Allan R. Callaghan, Principal of the Roseworthy Agricultural College, South Australia. What he urges is that now that there is a shortage of petrol—which there also is in this country—farmers with tractors are becoming apprehensive. It is pointed out that more horses will be needed, but where they are to come from is the problem. And for his lack of foresight and lack of anticipation in not breeding horses the farmer is likely to suffer most. Dr. Callaghan therefore appeals to farmers to breed more horses, not backed by any promise of remunerative prices but by an urgent sense of the need which he believes will undoubtedly intensify so long as the war continues. This is sound advice, which might be prudently followed in this country, where fortunately, now, encouragement has been offered by the Government to follow it out."

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There appears to be considerable misunderstanding regarding the extension of the scheme for supplying additional rations to enable breeders and rearers to produce pullets for sale to domestic poultry-keepers, which was announced in the Ministry's Press Notice of January 12th. No additional rations will be allowed to domestic poultry-keepers, who are advised to buy their replacements from reputable breeders. The announcement on January 12th was merely an extension of the original scheme whereby accredited and approved poultry breeders were issued with rations on receipt of an undertaking from them to produce pullets for sale to supply domestic poultry-keepers' replacement needs.—*Ministry of Agriculture.*

CLINICAL COMMUNICATION

Report on Two Outbreaks of Anthrax

F. CHAMBERS, F.R.C.V.S.
AND
R. B. HORNBY, B.V.SC., M.R.C.V.S.
WOLVERHAMPTON

In practice it is not usual to see an animal alive with anthrax, and providing there is no escape of a noticeable amount of blood from the rectum plus a high temperature, very few of these living cases are diagnosed. We usually see anthrax cases when they are dead, having been reported to the Police. The account of an outbreak on a farm is of interest.

CLINICAL FEATURES OF CASES

(1) On October 11th a *newly calved Shorthorn cow* was found dead. Blood from nose and anus; carcase blown, lying on left side. Anthrax bacilli in blood smear, capsules present.

(2) *Newly calved cow*, October 19th, was in shippon, lying on left side. She was comatose, with the right leg stretched out, and making scraping movements as though in pain. Pulse 70 p.m., temperature 102·2° F., respirations 80 p.m., the whole of the chest and abdomen being used in respiration. The noise made is best described as a "sighing grunt." This animal was covered with cold perspiration; the mucous membranes were cyanotic, the faeces sloppy, and the eyes were blind. The cow was seen at 11.20 a.m.; she died at 12.10. She milked normally in the morning, when udder was hot.

A thermometer was given to the owner to enable him to take the cows' temperatures night and morning.

(3) *Newly calved cow*, October 20th. She was eating, but the temperature was 105·2° F., and there was diarrhoea. Given 150 c.c. prontosil in the absence of serum. Next morning the owner reported that the cow looked normal, and was eating well—temperature 102·2° F. She was found dead in a sleeping position at 2 p.m.

(4) *Heifer near to calving*, October 23rd. She was seen lying away from rest of herd, when they were brought up for milking. She walked a quarter of a mile and fell down in ditch, then rose, staggered and fell again. This was repeated and finally she could not alter a very awkward position. I found her lying on her left side; there was abdominal pain, the faeces were sloppy. Temperature 105° F., pulse 70, respirations 90, sighing grunt. The cow was sweating behind the elbows and did not appear to see well. 125 c.c. prontosil "Bayer" was given. She died one and a quarter hours after. The owner said she milked and ate normally that morning, but the udder felt hot.

(5) *Cow calved about five weeks*, October 24th. The cow milked normally at 7 a.m. and ate well. The owner noticed the udder felt hot, but the temperature was normal. At 9.30 a.m. the cow was visited. She was standing in the shippon, was sweating behind the elbows, and the hair was staring. The cow was wild, jumping about. There was colic, and the eye was staring; temperature 104·2° F., pulse 70, respirations 90 p.m., and of the "sighing grunt" variety; the mucous membranes were red, and the faeces were very watery. The cow was injected with 150 c.c. human serum (obtained from the local hospital) and 100 c.c. prontosil. The cow was normal in four hours.

(6) *Newly calved cow*, October 27th. She was standing in the shippon, sweating on the chest wall. Temperature 105° F., respirations rapid. A blood smear was taken and is described below. The faeces were sloppy, and the mucous membranes deep red. The cow kept on kicking at her belly. 100 c.c. serum was given and the cow was normal in three hours.

Description of Smear from Cow 6

Several clean-cut, rod-shaped organisms were seen, but only after prolonged search. A striking feature was the enormous number of polymorphs present. There was a definite "colour reaction" to the naked eye.

Notes on smears—Cows 1 *to* 4

No. 1.—The bacilli were encapsulated.

Nos. 2, 3 and 4.—No capsules present; this was thought due to lack of resistance to anthrax?

Infection

As the farm had not had an outbreak for 20 years and no cattle had been buried, and also as it was self sufficient except for cattle cake which was bought, on finding cow No. 1, dead orders were given for 20 bags of cake not to be used. This was a new batch which was fed Thursday, October 9th for the first time and stopped after the death of the cow. The cake was fed on October 17th and stopped on the 19th, fed again on the 22nd—when within 48 hours two cows were affected with anthrax—and was stopped for the last time on the 23rd.

Notes on dead cows 1 to 4

No. 1 had blood from nose and anus.

Nos. 2, 3 and 4—no blood present after death. No. 3 had bloody diarrhoea whilst alive.

Aggressin was ordered on the 19th. As this was unobtainable from three firms, serum was ordered, and arrived on October 27th. All cows were given 100 c.c. each and no cases have occurred to date.

REMARKS

(1) Infection was from cattle cake?

(2) Cases 1 to 4 were confirmed as anthrax.

(3) Only animals whose resistance was lowered (by calving or being almost full time) were attacked.

(4) The symptoms of increased warmth of the udder, sweating behind the elbows, " sighing grunt " respirations, some colic and lying on left side, were extraordinarily constant. Temperature was not reliable.

(5) Prontosil was ineffective in treatment.

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CASES AT FARM N.B.

July, 1941. A cow died, and death was certified as due to anthrax. A few days later another cow died—both in the field. On July 10th the owner called one of us in to see a cow that was ill. It was a newly calved cow, third calf. The animal was in good condition; the temperature was 106° F., she was very depressed, the coat was staring, and there was total cessation of appetite and very acute diarrhoea. No blood was present in the faeces; the membranes were icteric. Anthrax was diagnosed and 200 c.c. anti-anthrax serum (human) was administered at 10 a.m. Next day the temperature was 104° F., but later, about 2 p.m., she commenced to pass large quantities of blood and faeces. Death took place at 3 p.m. Blood was positive for anthrax bacilli.

After the first death an effort was made to obtain anthrax aggressin from my usual supplier, but owing to the war this was unobtainable.

An aggressin made by a British firm was obtained and injected into 26 cows.

Three weeks later one of the injected cows succumbed to anthrax. After the second death I had advised the owner to stop feeding the cake until the cows had been immunised with aggressin. He commenced feeding the cows 14 days after with the " prohibited " cake, and within 48 hours another cow was dead with anthrax.

No further losses occurred until November of this year when one cow was found dead in the field—anthrax confirmed.

This cow was being dried off for calving and was not having concentrates of any kind.

Strangely enough, the day before the cow died the owner had commenced to " spring clean " the manger and had only done one in front of the cow that died, when the man was called away to help load beet. No other mangers were cleaned out. The diet of the dead cow consisted of hay, sugar beet tops and grass. She also had been immunised (?) with British aggressin. The owner is strongly of the opinion that in cleaning out the manger he disturbed some anthrax spores, to which the cow got access later in the day when she came in for a feed of beet tops.

From my point of view the sad thing was the inability of the aggressin to give any immunity.

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Anthrax?

December 4th, 1941.—A newly calved cow (three days) milked normally at 5.30 p.m., ate her meal and some of her hay. She was noticed by the owner at 7.30 to be beginning to paddle about. At 8.30 the owner thought the cow was showing symptoms of milk fever. She was seen shortly afterwards when the following symptoms were noted. Temperature 105·8° F.; pulse very rapid—so much so that it was almost impossible to count it; respirations 80, sighing grunt; mucous membranes very congested. Her coat was wet through with perspiration from the level of the shoulders to the tail. She was lying on her left side. When made to get up she stood with her head stretched out and the whole of her body heaving as she breathed. She was making a rotary movement with the left hind leg all the time, and occasionally kicking at her belly. The faeces were on the loose side, and she was passing small amounts frequently. On applying pressure to the right flank the cow grunted, looked round quickly, and raised the right hind leg. A guarded diagnosis was given. Anthrax was suggested, but to carry on, a big dose of calcium gluconate was given, and a journey made to the surgery to fetch a supply of anthrax serum. On arriving back at the farm at 9.40 the temperature was 105·4° F. and the owner thought that the cow was worse.

100 c.c. anthrax serum was given subcutaneously. The animal had remained standing from 9 until 9.40 p.m. The owner, next day, stated that at 1 a.m. the cow looked like her old self again. A blood smear which was taken showed no colour reaction; no bacilli were seen but a very high percentage of mononuclear and polymorphonuclear leucocytes were present. On the following morning she gave 2½ gallons milk and ate well. The temperature was normal.

This may or may not have been anthrax. It certainly was not typical milk fever in view of the high temperature and the fact that she stood up for a long time after first being seen. The injection of anthrax serum seems to have done good whereas the calcium did not have any helpful effect.

ABSTRACTS

[A MODIFIED WHITESIDE TEST FOR THE DETECTION OF CHRONIC BOVINE MASTITIS. MURPHY, J. M., and HANSON, J. J. (1941.) *Cornell Vet.* **31.** 47-55.]

The modified test is performed by mixing five drops of fore-milk and one drop of N.NaOH solution on a flat glass plate using a dull green blotter as a background. After mixing for 20 seconds with a glass rod, the mixture is examined by reflected light for the presence of a precipitate, which signifies a positive reaction. The amount and character of the precipitate can be graded. In all cases the fore-milk was used, and all procedures were completed within two hours of commencement of sampling. Three hundred and four samples of milk were studied, bacteriological examination, leucocyte content and *p*H values being performed concurrently. The results are tabulated and where a strong Whiteside reaction is given, all the samples (16 in this instance) were positive bacteriologically. Where the Whiteside reaction is less pronounced, there is less agreement in the bacteriological findings, and of 179 samples giving a negative Whiteside reaction 25 (14 per cent.) were from infected quarters. It is noteworthy that in this experiment 298 of the samples were normal to the naked eye, and that when bacteriologically examined there was a very marked preponderance of staphylococcal infection.

D. W. M.

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[THE STANDARDISATION OF JOHNIN: I.—THE SUITABILITY OF THE GUINEA-PIG AS A TEST ANIMAL. GLOVER, R. E. (1941.) *Vet. J.* **97.** 3-15.]

Johnin for field use has, up to the present, been standardised by tests on infected cattle, but owing to their low sensitivity it has been impossible to obtain very accurate results. Attempts were therefore made to sensitise guinea-pigs. Suspensions of Johne bacilli in saline were not satisfactory for this purpose but it was found that when organisms grown on fluid media were emulsified in liquid paraffin and injected intraperitoneally a high degree of skin sensitivity was produced in guinea-pigs of 400-500 grammes. In guinea-pigs below this weight the degree of sensitivity produced fell off rapidly.

A standard johnin (of arbitrary strength) was prepared by growing the " teps " strain in synthetic media and three other johnins were compared with the standard. Two negative and four positive cattle as well as sensitised guinea-pigs were used for test animals. The results in the negative cattle were satisfactory,

small pea-like swellings being produced. The tests in cattle indicated that one of the johnins was less active than the other three. The guinea-pig results confirmed this finding.

One of the johnins was tested in three groups of guinea-pigs. In each group the tests were made seven weeks after the animals had received the sensitising dose. There was an interval of a month between each test and reproducible end-points were obtained.

Experiments carried out in guinea-pigs with johnins diluted 75, 50 and 20 per cent. showed that a drop of 50 per cent. or more in potency could be detected without difficulty. This result compares favourably with the intracutaneous tuberculin test in guinea-pigs.

The johnins used in this study were concentrated by heat. Equally promising results, which have been obtained with johnin protein of a P.P.D. variety, will be described in a subsequent paper. J. F.

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[INFLUENCE OF THE SIZE OF THE INFECTING DOSE ON THE COURSE OF TUBERCULOSIS. Piasecka-Zeyland, E., and Zeyland, J. (1940.) *J. Path. & Bact.* **50.** 153-156.]

In order to determine what effect different doses of tubercle bacilli might have on the course of the disease a series of experiments was made using various doses and also a number of small doses. Guinea-pigs were used as the test animal and the criterion was the survival period. Only by increasing the infecting dose a thousandfold was the shortening of the survival time of statistical significance. Repeated small doses had little more effect than a single one of the same size. G. J. G. H.

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[THE RELATIVE EFFICIENCIES OF DISINFECTANTS IN KILLING *ERYSIPELOTHRIX RHUSIOPATHIAE*. McCulloch, E. C, and Fuller, S. A. (1941.) *Amer. J. vet. Res.* **2.** 77.]

A series of tests was made to determine the efficacy of some of the common disinfectants in killing *E. rhusiopathiae*. Also in order to test their strength in the presence of organic matter further examinations were made after mixing a sterile suspension of pig manure with the disinfectant.

Phenol 2 to 5 per cent. was a reliable disinfectant, being nearly as lethal in the presence of the manure, but its toxicity, odour and cost detract from its value.

Liq. cresol, lysol, Lugol's solution and tincture of iodine were highly germicidal but were much less effective when organic matter was present.

Lye (sodium hydroxide) had high killing properties which were not greatly reduced by the addition of manure and so appeared to be a very serviceable disinfectant.

Soap was germicidal in strengths of about 1 per cent. in 5 mins. even in the presence of manure and so would seem to be of value for use on the hands following exposure to this organism.

Chlorine-containing powders when made into solution were strongly disinfectant. They lost some of their power in the presence of organic matter and are not so effective in an alkaline medium.

Alcohol, hydrogen-peroxide and formalin had very poor killing properties and the latter failed to kill in strengths of 1 : 100 in the presence of added organic matter. G. J. G. H.

CLOSING OF SLAUGHTERHOUSES

The National Farmers' Union and Chamber of Agriculture of Scotland, point out that the action of the Ministry of Food in ordering the closing down of slaughterhouses in certain areas has given rise to some alarm, since farmers in the districts affected fear they may be at a disadvantage in arranging the disposal of their casualty animals, and may even be involved in considerable expense in delivering carcases over long distances in accordance with the provisions of the Meat and Live Stock Scheme.

"While the War Committee appreciate that the Ministry's decision has been taken in the interests of economy, they feel that the regulations governing the handling of casualties should be modified to meet the case of the producer who no longer has a slaughterhouse at hand, and they have intimated to the Ministry that it is the intention of representatives on the Live Stock Advisory Panel to raise the question at the first meeting at which the conditions of the Scheme are under review."

IN PARLIAMENT

The following questions and answers are amongst those recently recorded in the House of Commons:—

Pit Ponies

Sir R. Gower asked the Secretary for Mines whether he can state the number of horses and ponies employed below ground that are carrying electric battery lamps affixed to their collars or bridles, as recommended by his Department; and to what extent it is estimated that the general provision of such lamps would lead to greater efficiency and safety of horses and their drivers?

Mr. Grenfell: The latest figures available are for June, 1940, where the number of electric lamps specially provided for horses was approximately 600. The proportion of horses so provided with lamps is too low to enable any definite conclusions to be drawn regarding the effect upon the accident rate for horses.

Sir R. Gower asked the Secretary for Mines whether he is satisfied that the horses and ponies employed in mines receive adequate daily supplies of nourishing food, both at the underground stables and while at work during day and night shifts; whether the increased strain on the animals, owing to the drive for greater production, has shown any ill-effects; and whether the total number of hours worked by them per week is being reduced in cases where signs of physical strain are observed?

Mr. D. Grenfell: There have been difficulties as regards supplies of animal feeding stuffs, but special priorities have been given for pit horses and ponies and while changes in their diet have been inevitable there has been no shortage of suitable food. The condition of the horses is being closely watched by the responsible mine officials and by the Inspectors of Mines and in general continues to be satisfactory: but the constant vigilance of all concerned is necessary to ensure that any signs of deterioration in individual horses are corrected by an improved or better balanced diet or by some lightening of their work.

Although every effort is being made to increase the production of coal, the tonnage dealt with by horse haulage has not increased in proportion to the tonnage similarly hauled in pre-war years.

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Dogs (Sheep Worrying)

Mr. G. Griffiths asked the Minister of Agriculture whether he will issue an order that all dogs must be on a leash after black-out time, seeing there is a great increase in sheep worrying?

Mr. T. Williams: Local Authorities are, by virtue of the Control of Dogs Order of 1930, already in possession of power to make regulations requiring dogs to be kept under control from sunset to sunrise. Such regulations are at present in force in all county areas in Great Britain, and, therefore, there seems no necessity for the making of a further Order of the kind for which my hon. Friend is asking.

Weekly Wisdom

But though the doctors could not tell the people what to do to cure the plague, they could tell them what steps to take if they wished to avoid it. . . . And in due course when they had suffered badly enough and long enough, suffered for several hundred years to the tune of several million . . . human beings saw the doctors' point, devised a system . . . and ceased to suffer. And the inference? That human beings really are teachable. If they are suffering from some palpable evil, and if you can show them how the evil can be prevented, then when the evil has continued long enough and they have suffered badly enough, provided that you have in no way relaxed your efforts at demonstration but have continued to entreat them, *arguing the while patiently, cogently and persuasively in favour of the means of prevention that lie to hand, you can in the end induce them to do what is necessary to save themselves. In the end men will always see the point.*
—Introduction to the Testament of Joad.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Feb. 4th.—Meeting of the Section of Comparative Medicine of the Royal Society of Medicine, at 1, Wimpole Street, W.1, 2.15 for 2.30 p.m.

Feb. 5th.—Meeting of the Central Veterinary Society at the Conway Hall, W.C.1, 2.15 p.m.

Feb. 17th.—Adjourned Meeting of Council, N.V.M.A., at the Connaught Rooms, Great Queen Street, Kingsway, W.C.2, 11.30 a.m., to be followed by an Ordinary Meeting of Council.

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PERSONAL

Distinguished Services in the Middle East.—In our issue of January 10th we published the list of R.A.V.C. awards in recognition of distinguished services in the Middle East. A notable addition to the awards to members of the profession for distinguished services in this field of military operations is that of the M.B.E. to Captain John Bedlington Griffiths, M.R.C.V.S., who joined the Pioneer Corps from the inspectorate staff of the Ministry of Agriculture and Fisheries.

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Marriage.—Riddington-Dobie, on January 17th, at Trinity Presbyterian Church, Claughton, Birkenhead. By the Rev. Andrew Prentice, M.A., James F. Riddington, of Southport, to Sheila, daughter of T. A. Dobie, M.R.C.V.S., and Mrs. Dobie, of Birkenhead.

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University of London Degrees for Mr. E. G. White.—On examinations recently held by the University of London, Mr. Edwin George White, M.R.C.V.S., B.SC. (PHYSIOL.) (LOND.) was awarded the degrees of Ph.D. and the B.Sc. (Vet. Sc.). The doctorate was awarded Mr. White as Internal Student in the Faculty of Science, the field of study being Veterinary Science and the title of his thesis "Some Observations on the Liver of the Pig."

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ROYAL ARMY VETERINARY CORPS

The following notification is made in the issue of *The London Gazette* dated January 16th, 1942:—

Thomas Millar Black (221380) to be Lieut. December 29th, 1941.

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OBITUARY

Howes, William Frederick, West End Lodge, Aylsham, Norfolk. Graduated London, December 17th, 1890. Died January 20th, 1942; aged 72 years.

Prime, Thomas Fletcher, 21, Westow Hill, Upper Norwood, S.E.19. Graduated London, May 17th, 1892. Died January 21st, 1942; aged 71 years.

Spencer, Trevor Farmer, "Glencar," London Road, Kettering, Northants. Graduated London, December 17th, 1890. Died January 21st, 1942; aged 71 years.

For a great many years Mr. Howes was widely known in Norfolk farming and stock-breeding circles as a veterinary surgeon, with an establishment on the Cattle Market at Norwich. Mr. Howes subsequently lived at St. Stephen's Road before moving to Aylsham on his retirement, when both he and Mrs. Howes became familiar figures at the Annual Congress of the N.V.M.A., where Mr. Howes represented the interests of the International Serum Company (of which he was Managing Director) at the Drugs Exhibition. Deep sympathy will be felt with Mrs. Howes in her bereavement.

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Mr. T. F. Prime, to whose life further reference will be made in our next issue, was a much respected practitioner in South London, in partnership with Mr. William Harrison Prime. The late Mr. T. F. Prime rendered valued assistance to the A.R.P. Animals Service in the capacity of Regional Veterinary Officer for South London.

Mr. Trevor F. Spencer, M.R.C.V.S.

In the death, after a long period of failing health, of Mr. Trevor Spencer, of Kettering, which we record with profound regret, the profession mourns the loss of a practitioner of deservedly wide repute, whose abilities and personality enabled him to render valued service in the many spheres of activity which attracted his interest.

An appreciation of Mr. Trevor Spencer's life and work will be published in our next issue, but tribute must be paid forthwith to the sterling nature of his efforts for the advancement of the profession as a member of the Council of the Royal College of Veterinary Surgeons for more than a decade (1921-1933), and as an esteemed member of the N.V.M.A., the Midland Counties Division and the Central Veterinary Society. Agricultural, horse and cattle societies alike claimed his knowledgable interest and he was a familiar figure as honorary veterinary surgeon at shows in London and the provinces. Mr. Spencer held appointment as local Veterinary Inspector of the Ministry of Agriculture for 37 years. His well-informed interest in veterinary public health matters was notably illustrated by his paper to the World's Dairy Congress in London in 1928 on "The Inspection of Dairy Cows and the Need for a State Veterinary Health Service in connection therewith," and by numerous contributions to veterinary periodicals.

To the widow, formerly Miss Nancie Bellamy, of Kettering, and family of two daughters, Miss Violet Spencer and Mrs. Patrick May, of Bushey, Herts, the deepest sympathy of the profession is extended.

The funeral service, to which further reference will be made, took place at Kettering Parish Church on Saturday last, when the N.V.M.A. was represented by Major J. J. Dunlop, M.C., M.R.C.V.S., who sent a floral tribute, as from the Association.

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The Late Mr. J. C. Deville, M.R.C.V.S.

In connection with the death of Mr. J. C. Deville, which we recorded with much regret in a recent issue, H. W. D. writes:—

"His many friends in the Midlands and elsewhere have sustained a great loss by the death of Mr. John Crossley Deville, who died at his residence The Old Rectory, Bramshall, Uttoxeter, on December 28th, 1941, at the age of 70 years.

"Mr. Deville qualified at the New College, Edinburgh, under Principal Williams, in December, 1895, and succeeded to the practice of his father, who was a registered practitioner in the Uttoxeter district.

"Mr. Deville combined with his professional skill a thorough knowledge of agriculture, and was thus able to bring to bear in the course of his practice a sound understanding which is such a help to the agriculturist.

"A great lover of horses, Mr. Deville was a keen rider to hounds, and for many years hunted regularly with the Meynell.

"A staunch Churchman, he was for a long period Churchwarden at Bramshall, and was Chairman of the Parochial Church Council.

"For many years he was a Member of the Midland Counties Veterinary Medical Association and occupied the Presidential Chair, and whenever possible he was a zealous attender at its meetings. Forcible in debate, he was a great upholder of the dignity of the veterinary profession, and a dour fighter in matters relating to the well-being of the practitioner.

"John Deville was of the best type of country practitioner; the profession is poorer for his death, and his many friends in all walks of life regret his passing."

. . . . .

The Late Mrs. G. B. Taylor

The many friends of Mrs. Taylor, wife of Mr. G. B. Taylor, M.R.C.V.S., who is on the staff of the Ministry of Agriculture and Fisheries, in Edinburgh, will have learned with profound regret of her death after a short illness, on January 11th.

"Madge" Taylor, as she was known by a large circle of friends both within and without the profession, will be greatly missed. She was of a kindly and lovable disposition and her gracious manner and the sympathetic interest she took in all her friends endeared her to all.

Mrs. Taylor, who was a Miss Andrew of Acredales, Haddington, came of a family well known in agricultural and veterinary circles. Her uncle, the late Mr. W. Houston of Paisley, died only recently at an advanced age, and she has also two brothers and a nephew in the profession; Mr. A. H. Andrew (Sen.) and his son, Mr. A. H. Andrew (Jun.) of Ware, and Mr. James Andrew of Paisley.

The greatest sympathy will be extended to her husband and their son, who is at school in Edinburgh, and to the members of her family.

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HILL SHEEP FARMING

Agricultural Improvement Council Committee of Investigation

It is announced by the Ministry of Agriculture that the Agricultural Improvement Council for England and Wales has set up a Committee with the following terms of reference:—

> "to investigate the present position of hill and upland sheep farming in England and Wales and in the light of modern scientific knowledge to suggest measures that might be taken to improve the condition of hill and upland grazings, the health and hardiness of sheep stocks and systems of stocking and management."

The Committee is constituted as follows: Lord De La Warr (Chairman); Mr. J. C. F. Fryer, O.B.E., M.A., Mr. Moses Griffith, M.Sc., Mr. David Lewis, Mr. R. F. Montgomerie, B.Sc., F.R.C.V.S., PH.D., Professor G. W. Robinson, M.A., Mr. R. W. Wheldon, D.Sc., and Mr. W. Wilson.

Mr. D. H. Dinsdale, M.A., of King's College, Newcastle-on-Tyne, will act as Technical Secretary to the Committee and the Administrative Secretary will be Mr. J. H. Banbury of the Ministry of Agriculture and Fisheries, Lindum Hotel, St. Annes-on-Sea, Lancs.

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LEGAL NOTES

"*Goats*" *Were Sheep.*—A Yaxham (Norfolk) livestock dealer who sent the carcases of seven sheep to the London market, describing them as "kids" was ordered to pay a total of £50 by the Dereham magistrates for causing sheep to be slaughtered without a licence, being in unlawful possession of the sheep for the purpose of trade and for the sale of the meat.

The defendant pleaded that he honestly thought the animals were goats, and Mr. P. C. N. Soloman, defending, declared "there is an extremely narrow margin of difference between goats and sheep in some cases."

Prosecuting for the Ministry of Food, Mr. R. Keefe suggested that the defendant attempted to pass off the sheep as goats because at that time there was no restriction on the price of the latter. Because of the shortage of meat, he added, London hotels were "falling over themselves" for goat-meat.

Found guilty of all three offences, the defendant was fined £20, £10 and £20 respectively.

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CATTLE BREEDING IN THE NEW FOREST

The use of the New Forest for a big communal farming experiment with the aim of keeping the forest commoners on the land and the breeding of cattle in large numbers was recently announced by Dr. F. W. Kenchington, assistant executive officer to the Hampshire War Agricultural Executive Committee. Dr. Kenchington said that the Government had prepared a ranch scheme for the New Forest and 1,000 acres in the Beaulieu area had been taken over for the initial experiment. If the scheme succeeded—and it was confidently expected that it would—it would be extended to 10,000 acres with a Government grant of £5 an acre. The ultimate aim was 20,000 acres to support 10,000 head of cattle. Commoners in the New Forest would become co-partners. The number of cattle was shrinking alarmingly and commoners who for centuries had bred cattle and ponies in the New Forest were flocking to the factories. It was desirable to retain them in the New Forest, and the Government grant would help them to buy calves and improve the grazing and so rear cattle which would be sold under the Government's marketing scheme.

Any graduate of the Glasgow Veterinary College may obtain, free of cost, a copy of the History recently compiled for the Governors by Mr. William Adair, on application to Mr. James Austin, Secretary, Glasgow Veterinary College, 149, Ingram Street, Glasgow.

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At a meeting of the Council of the Clydesdale Horse Society held in Glasgow on January 14th, Professor John R. McCall, M.R.C.V.S., of Glasgow, was nominated President for the ensuing year, 1942-43.

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Following a recent report of the Agricultural Improvement Council, the Minister of Agriculture and Fisheries and the Secretary of State for Scotland have set up an Agricultural Machinery Development Board for Great Britain consisting of representatives of agriculture, engineering and the Department of Scientific and Industrial Research and the Agricultural Research Council.

CORRESPONDENCE

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue. *The views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.*

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TELEGONY

To the Editor of the Veterinary Record

Sir,—In reply to Mr. G. Mayall's query in *The Veterinary Record* of January 25th regarding Telegony, it can be clearly stated that present-day Mendelian genetics completely refutes any justification for a belief in the occurrence of this supposed phenomenon. In the words of Professor Crew in his book, "Animal Genetics," the evidence offered in support of telegony is "largely anecdotal and uncritical."

The classical instance of telegony is that of Lord Morton's mare, which was first mated to a male quagga and produced a hybrid foal. Subsequently the same mare in successive matings with an Arab stallion, produced a filly foal and then a colt foal, which were described as excellent examples of the Arab type, except that on parts of the body they bore markings characteristic of the quagga. These facts, which were reported to the Royal Society in 1821, were so convincing that, in the light of the limited knowledge of heredity then existing, even Darwin is said to have accepted them. The occurrence of the quagga-like markings on the horse foals is now known to be accounted for by the phenomenon of reversion, for which the Mendelian doctrine provides a simple explanation; the markings were in fact a "throwback" to some remote ancestor, most probably the old forest horse which was striped like a zebra. The zebra markings on many of the Norwegian ponies have a similar origin.

The most comprehensive evidence against telegony is provided by the famous Penycuik experiments of the late Professor Cossar Ewart, reported in 1899. These experiments involved extensive crossing of ponies and zebras but not a single unquestionable instance of telegony was brought to light. Additional evidence is provided from the large mule-breeding centres in the U.S.A., where mares are frequently bred to a stallion after having produced a number of mule foals, but in no single case has there been any evidence of telegony.

Many veterinary surgeons will be well aware that a widespread belief in telegony and in the similar alleged phenomenon of "infection of the male" exists among many animal owners. It is difficult to convince the uninformed layman of the absurdity of these now discredited beliefs.

Yours faithfully,
N. J. Scorgie.

Royal Veterinary College,
Holme Park,
Sonning,
Berks.
January 26th, 1942.